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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/963,547	09/27/2001	Gabi Malka	2207/10125	9253

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EXAMINER	
CHEN, PO WEI	

ART UNIT	PAPER NUMBER
2676	

DATE MAILED: 09/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/963,547	MALKA ET AL.	
	Examiner	Art Unit	
	Po-Wei (Dennis) Chen	2676	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 July 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12 and 18-20* is/are pending in the application.

4a) Of the above claim(s) *6-12 and 18-20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

In response to an Amendment received on July 09, 2004. This action is non-final.

Claims 1-12 and 18-20 are pending in this application. Claims 1, 6, 9, 11 and 18-20 are independent claims. Claims 6-12 and 18-20 are withdrawn from consideration.

The present title of the invention is "Texture Engine State Variable synchronizer".

Election/Restrictions

1. Applicant's election with traverse of Group I (claims 1-5) in the reply filed on July 09, 2004 is acknowledged. The traversal is on the ground(s) that all of the pending claims are directed to various related aspects of an invention that synchronizes parallel texture pipeline processors and new search does not appear to present a serious burden. This is not found persuasive because the pending claims have been substantially amended and new claims have been added in an Amendment received on April 07, 2004 and the pending claims are directed to distinct inventions. Each group of claims contains limitation that is not found in other groups. For example, claim 6 of Group II recites "determining a number of N of textures to be applied to the polygon, based on the set of state variable data", the limitation is not found in Group I and since claims to both groups are presented and assumed to be patentable, the omission of the limitation in Group I is evidence that the patentability of Group I does not rely on the limitation of Group II. While Applicant argues that pass searches are surely to have encompassed the same classifications that are to be searched for any new elements added to the claims, any new search does not appear to present a serious burden. However, since the pending claims have been substantially amended and new claims have been added, each group of claims requires a separated search. Moreover, if Applicant is traversing on the ground that the restriction is not

patentably distinct, Applicant should submit evidence or identify such evidence now of record showing the restriction for each grouping to be obvious variants or clearly admit on the record that this is the case.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable by Kelley et al. (US 5,517,603; refer to as Kelley herein) in view of Duluk, Jr. et al (US 6,525,737; refer to as Duluk herein).

3. Regarding claims 1-3, Kelley discloses a rendering device comprsing:

Synchronizing parallel texture pipelines; simultaneously enabling a processing portion of a number of the parallel texture pipelines, said number corresponding to a number of parallel texture operations indicated by the state variables (lines 47-65 of column 10, lines 5-66 of column 11, and line 5 of column 37 to line 58 of column 38 and Fig. 6-7; token corresponds to state variables. Also, it is noted that the number of processing pipelines (in the example, it could be 1 or 2) will depend on if control token is received. While claim recites texture operation, the term is broad enough to include the pixel shading functions).

Transferring the received array of state variables to a latching register; transferring is performed substantially simultaneously for each parallel texture pipeline, prior to the enabling (lines 29-37 of column 15 and line 5 of column 37 to line 58 of column 38 and Fig. 6-7; it is

noted that stage 2 for each pipeline transferred the received token (which is received simultaneously by each pipeline) to a register for later process. And it is done before rendering process of the pipeline, corresponds to be enabled).

Kelley does not disclose loading an array of state variables for polygon into an accumulation portion of a plurality of parallel texture pipelines; receiving the polygon state variables in a state variable accumulator. Duluk discloses a graphics processor with pipeline state storage utilizing the method (lines 13 of column 4 to line 47 of column 5, lines 22-67 of column 7 and lines 14-20 of column 17; state information corresponds to state variables). It would have been obvious to one of ordinary skill in the art at the time of invention to utilize the teaching of Duluk to provide the advantage of producing image efficiently with a high performance process (see lines 58-60 of column 2 and lines 14-15 of column 17, Duluk). Also, both Kelley and Duluk are directed to a graphic processing utilizing state parameters on rendering polygons, or primitives.

2. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable by Kelley et al. (US 5,517,603; refer to as Kelley herein) and Duluk, Jr. et al (US 6,525,737; refer to as Duluk herein) as applied to claim 1 above, and further in view of Bowen et al. (US 6,329,996; refer to as Bowen herein).

3. Regarding claim 4, the combination of Kelly and Duluk does not disclose disabling the processing portions of the remaining non-enabled parallel texture pipelines. Bowen discloses a method for synchronizing graphics pipelines utilizing the method (lines 57-65 of column 4 and 24-32 of column 5). It would have been obvious to utilize the teaching of Bowen to provide a

better synchronizing method for operating parallel pipelines such as one disclosed by Kelley to ensure image quality (lines 14-43 of column 2, Bowen).

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kelley et al. (US 5,517,603; refer to as Kelley herein), Duluk, Jr. et al (US 6,525,737; refer to as Duluk herein) and Bowen et al. (US 6,329,996; refer to as Bowen herein) as applied to claim 1 above, and further in view of Melo et al. (US 6,243,817; refer to as Melo herein).

4. Regarding claim 5, the combination of Kelley, Duluk and Bowen does not disclose removing power for disabled processing portions. However, this is known in the art taught by Melo. Melo discloses a method for dynamically reducing power consumption that "selectively removing power to the second set of input buffers if the second set of signals are inactive" (see lines 36-41 of column 3). It would have been obvious to one of ordinary skill in the art to utilize the teaching of Melo to provide the advantage of reducing power consumption (see lines 24-26 of column 2, Melo). Also, both Kelley and Melo are directed to disable or inactivate certain component of a computer system.

Response to Arguments

5. Applicant's arguments with respect to claims 1-5 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Po-Wei (Dennis) Chen whose telephone number is (703) 305-8365. The examiner can normally be reached on 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew C Bella can be reached on (703) 308-6829. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Po-Wei (Dennis) Chen
Examiner
Art Unit 2676

Po-Wei (Dennis) Chen
September 30, 2003

Matthew C. Bella

MATTHEW C. BELLA
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